

FIG. 1A

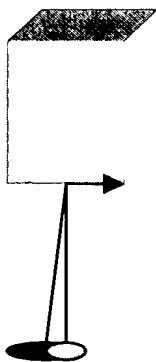


FIG. 1B



R2L Predominance
Bore Angled Left

FIG. 1C

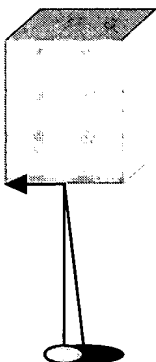


FIG. 2A

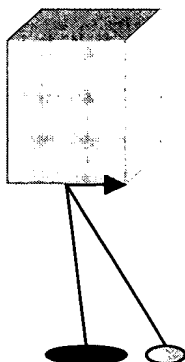


FIG. 2B



L2R Predominance
Bore Angled Right

FIG. 2C

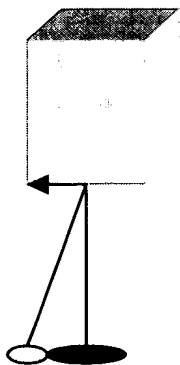


FIG. 3A

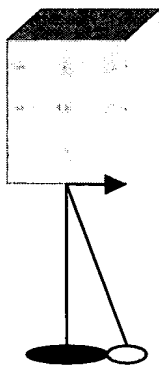
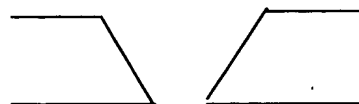


FIG. 3B



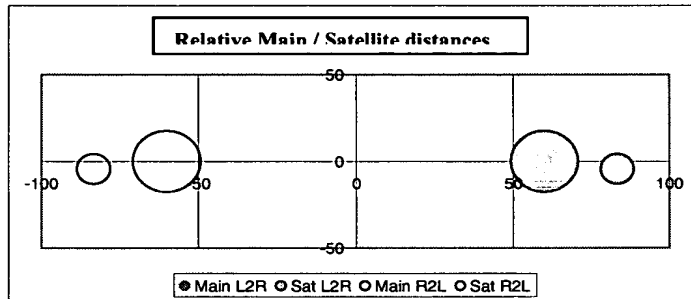
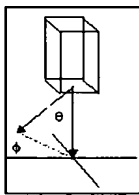
Balanced
Bore Symmetric

FIG. 3C

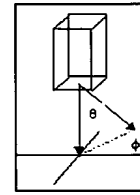
X misplacement = $\{ \text{Gap} * \text{Carrier Velocity} / [\text{Jet Velocity} * \cos(\theta)] \} + \text{Gap} * \tan(\theta) * \cos(\phi) + \text{xoffset}$
Y misplacement = $\text{Gap} * \tan(\theta) * \sin(\phi) + \text{yoffset}$
Gravity and Air turbulence ignored

Gap (microns)	1000			
Carrier Velocity (ips)	30			
	L2R		R2L	
	Main	Satellite	Main	Satellite
Jet Velocity (ips)	500	360	500	360
Theta (degrees)	0	0.25	0	0.25
Phi (degrees)	270	270	270	270
X misplacement (microns)	60	83.33413	-60	-83.33413
Y misplacement (microns)	0	-4.363351	0	-4.363351

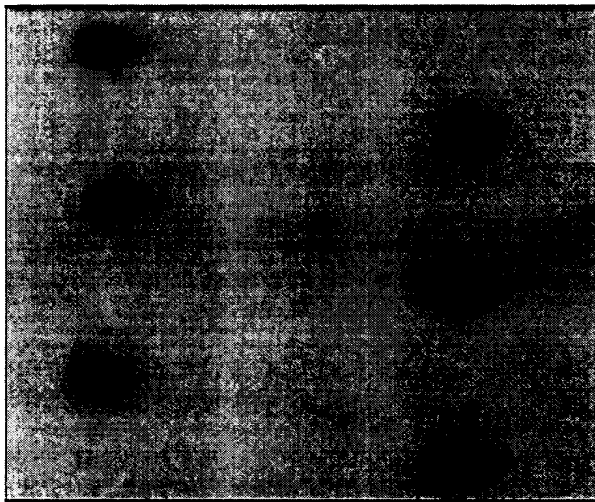
Carrier direction R2L



Carrier direction L2R



L2R



R2L

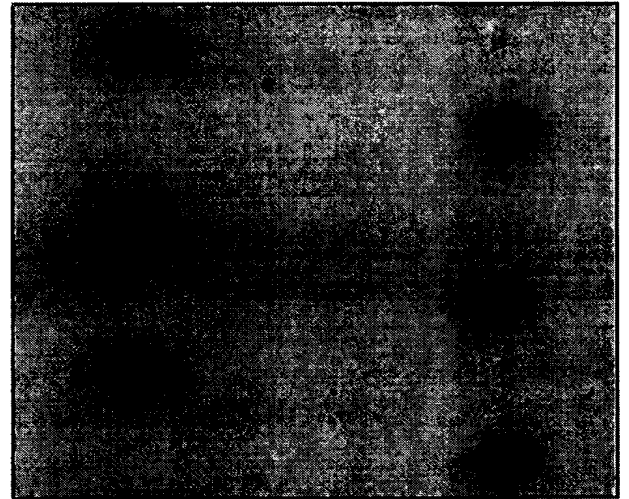
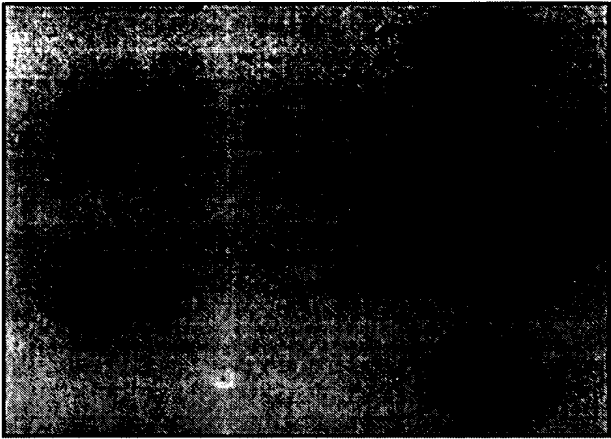


FIG. 4

L2R



R2L

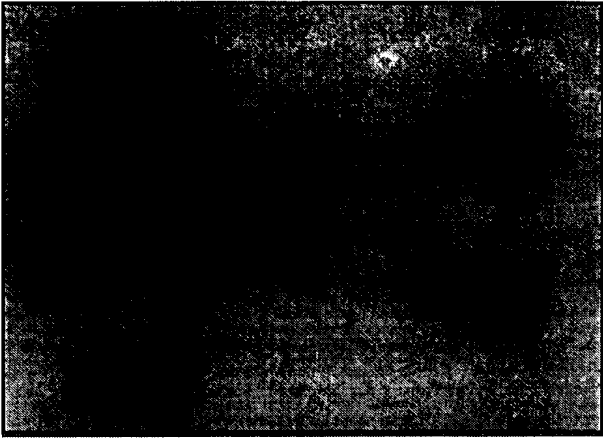


FIG. 5

X misplacement = $\{ \text{Gap} \cdot \text{Carrier Velocity} / [\text{Jet Velocity} \cdot \cos(\theta)] \} + \text{Gap} \cdot \tan(\theta) \cdot \cos(\phi) + \text{offset}$
Y misplacement = $\text{Gap} \cdot \tan(\theta) \cdot \sin(\phi) + \text{offset}$
Gravity and Air turbulence ignored

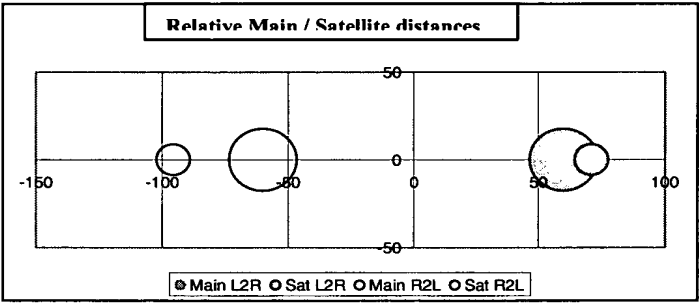
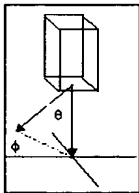
Gap (microns)
Carrier Velocity (ips)

1000
30

Jet Velocity (ips)
Theta (degrees)
Phi (degrees)
X misplacement (microns)
Y misplacement (microns)

L2R		R2L		Inputs
Main	Satellite	Main	Satellite	
500	360	500	360	
0	0.7	0	0.7	
180	180	180	180	
60	71.12164	-60	-95.55747	Outputs
0	1.5E-15	0	1.5E-15	

Carrier direction R2L



Carrier direction L2R

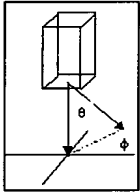


FIG. 6

$$X \text{ misplacement} = \{ \text{Gap} * \text{Carrier Velocity} / [\text{Jet Velocity} * \cos(\theta)] \} + \text{Gap} * \tan(\theta) * \cos(\phi) + x\text{offset}$$
$$Y \text{ misplacement} = \text{Gap} * \tan(\theta) * \sin(\phi) + y\text{offset}$$

Gravity and Air turbulence ignored

Gap (microns)	1000			
Carrier Velocity (ips)	30			
	L2R		R2L	
	Main	Satellite	Main	Satellite
Jet Velocity (ips)	500	360	500	360
Theta (degrees)	0	-0.7	0	-0.7
Phi (degrees)	180	180	180	180
X misplacement (microns)	60	95.55747	-60	-71.12164
Y misplacement (microns)	0	-1.5E-15	0	-1.5E-15

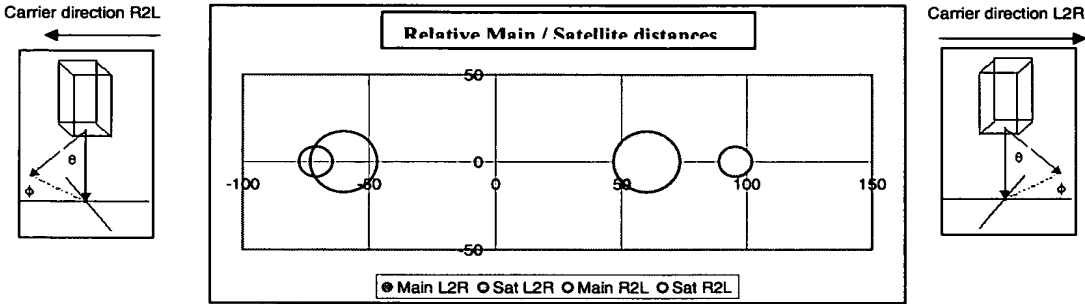


FIG. 7

L2R



R2L

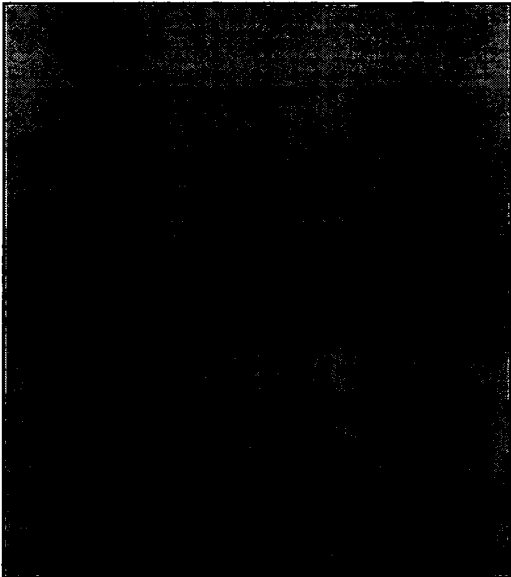


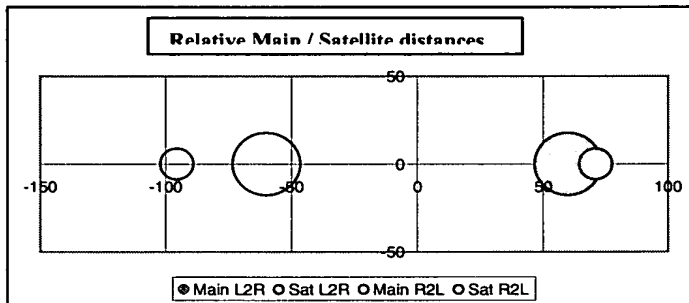
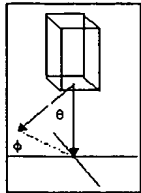
FIG. 8

X misplacement = (Gap*Carrier Velocity/(Jet Velocity*cos(theta)))+Gap*tan(theta)*cos(phi)+xoffset
Y misplacement = Gap*tan(theta)*sin(phi)+yoffset
Gravity and Air turbulence ignored

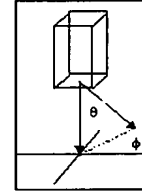
Gap (microns) 1000
Carrier Velocity (ips) 30

	L2R		R2L		
	Main	Satellite	Main	Satellite	
Jet Velocity (ips)	500	360	500	360	Inputs
Theta (degrees)	0	0.7	0	0.7	
Phi (degrees)	180	180	180	180	
X misplacement (microns)	60	71.12164	-60	-95.55747	Outputs
Y misplacement (microns)	0	1.5E-15	0	1.5E-15	

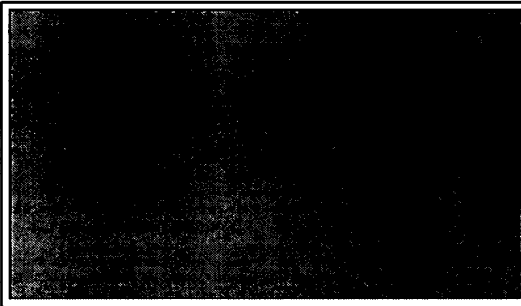
Carrier direction R2L



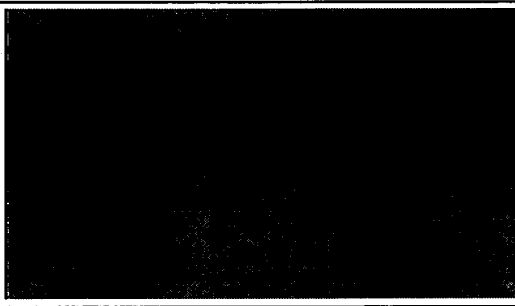
Carrier direction L2R



L2R



R2L



R2L Satellite Predominance

FIG. 9

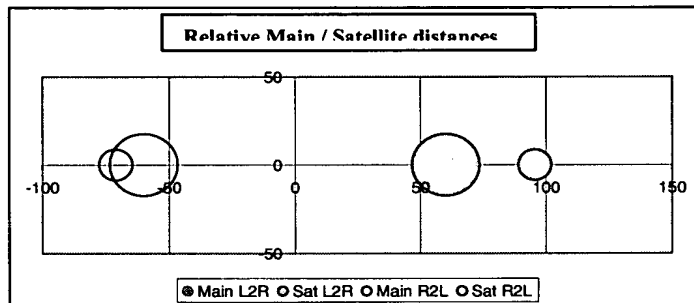
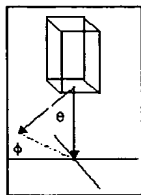
X misplacement = $\{ \text{Gap} * \text{Carrier Velocity} / [\text{Jet Velocity} * \cos(\text{theta})] \} + \text{Gap} * \tan(\text{theta}) * \cos(\phi) + \text{xoffset}$
Y misplacement = $\text{Gap} * \tan(\text{theta}) * \sin(\phi) + \text{yoffset}$
Gravity and Air turbulence ignored

Gap (microns)	1000			
Carrier Velocity (ips)	30			
	L2R		R2L	
	Main	Satellite	Main	Satellite
Jet Velocity (ips)	500	360	500	360
Theta (degrees)	0	-0.7	0	-0.7
Phi (degrees)	180	180	180	180
X misplacement (microns)	60	95.55747	-60	-71.12164
Y misplacement (microns)	0	-1.5E-15	0	-1.5E-15

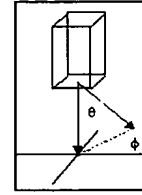
Inputs

Outputs

Carrier direction R2L



Carrier direction L2R



L2R Satellite Predominance

L2R

R2L

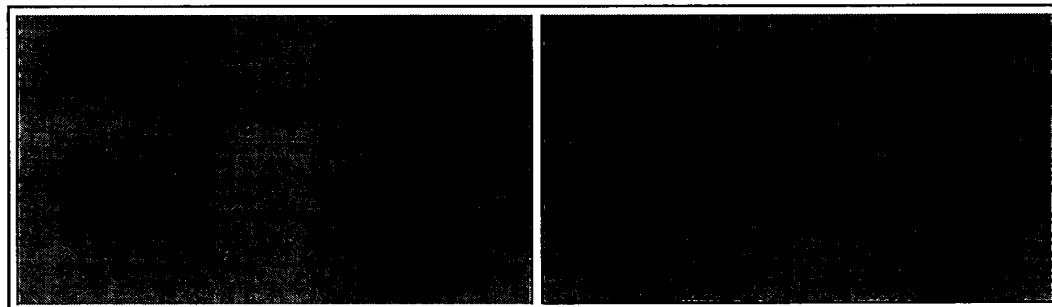


FIG. 10

Cyan

Cyan

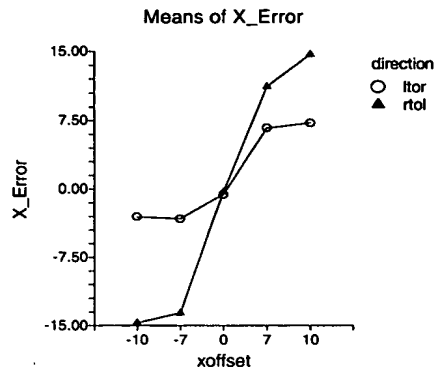


FIG. 11

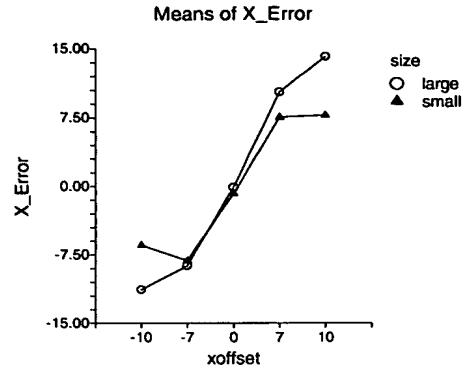


FIG. 12

Yellow

Yellow

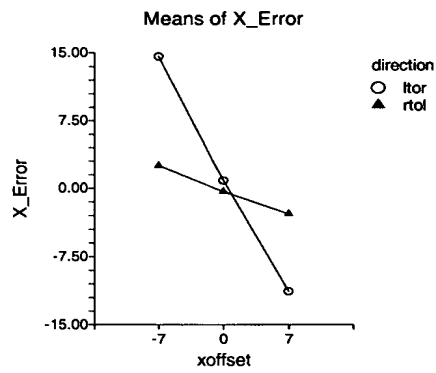


FIG. 13

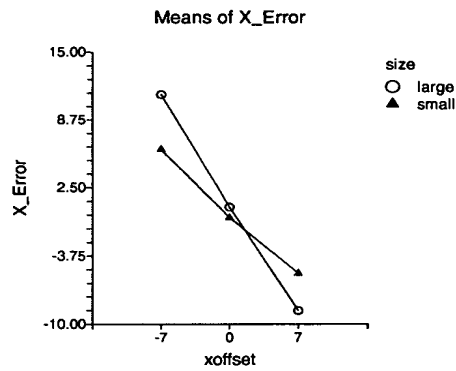


FIG. 14

Magenta main drops

Magenta satellites

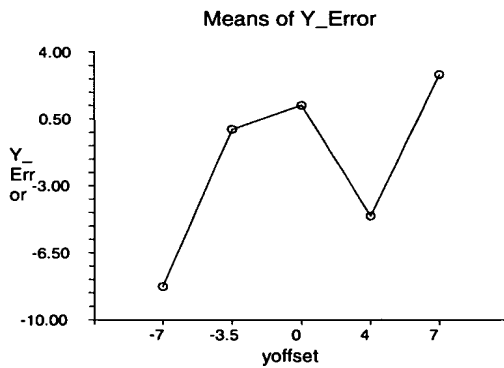


FIG. 15

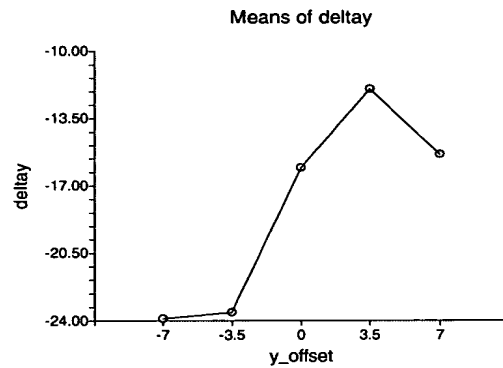


FIG. 16

X misplacement = $\{ \text{Gap} * \text{Carrier Velocity} / [\text{Jet Velocity} * \cos(\theta)] \} + \text{Gap} * \tan(\theta) * \cos(\phi) + \text{xoffset}$
Y misplacement = $\text{Gap} * \tan(\theta) * \sin(\phi) + \text{yoffset}$
Gravity and Air turbulence ignored

Gap (microns)	1000			
Carrier Velocity (ips)	30			
	L2R		R2L	
	Main	Satellite	Main	Satellite
Jet Velocity (ips)	500	360	500	360
Theta (degrees)	1	1	1	1
Phi (degrees)	180	180	180	180
X misplacement (microns)	42.55407	65.89096	-77.4642	-100.8011
Y misplacement (microns)	2.14E-15	2.14E-15	2.14E-15	2.14E-15

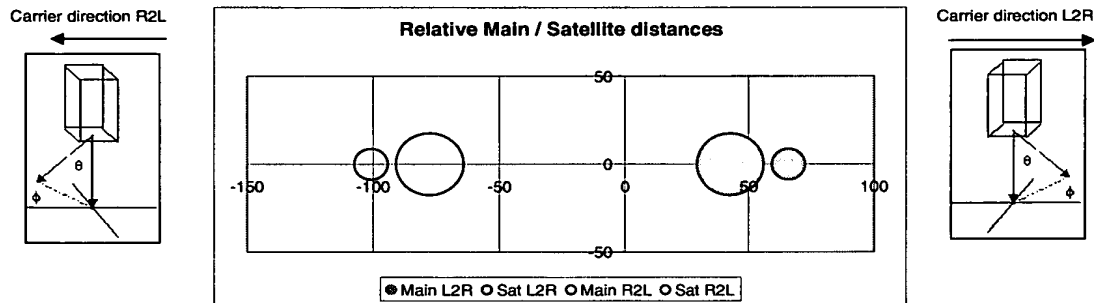


FIG. 17

X misplacement = $\{ \text{Gap} * \text{Carrier Velocity} / [\text{Jet Velocity} * \cos(\theta)] \} + \text{Gap} * \tan(\theta) * \cos(\phi) + \text{xoffset}$
Y misplacement = $\text{Gap} * \tan(\theta) * \sin(\phi) + \text{yoffset}$
Gravity and Air turbulence ignored

Gap (microns)	1000			
Carrier Velocity (ips)	30			
	L2R		R2L	
	Main	Satellite	Main	Satellite
Jet Velocity (ips)	500	360	500	360
Theta (degrees)	-1	-1	-1	-1
Phi (degrees)	180	180	180	180
X misplacement (microns)	77.4642	100.8011	-42.55407	-65.89096
Y misplacement (microns)	-2.14E-15	-2.14E-15	-2.14E-15	-2.14E-15

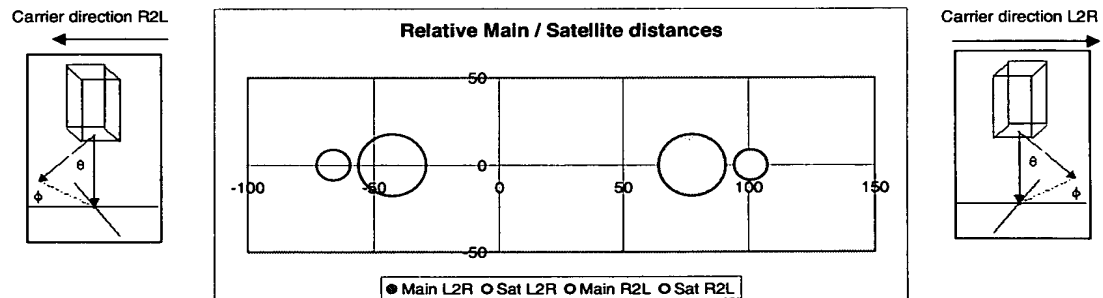


FIG. 18

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X misplacement = (Gap*Carrier Velocity/[Jet Velocity*cos(theta)])+Gap*tan(theta)*cos(phi)+xoffset
Y misplacement = Gap*tan(theta)*sin(phi)+yoffset
Gravity and Air turbulence ignored

Gap (microns)	1000				
Carrier Velocity (ips)	30				
	L2R		R2L		
	Main	Satellite	Main	Satellite	
Jet Velocity (ips)	500	360	500	360	Inputs
Theta (degrees)	0	-2.5	0	-2.5	
Phi (degrees)	0	90	0	90	
X misplacement (microns)	60	83.41272	-60	-83.41272	Outputs
Y misplacement (microns)	0	-43.66094	0	-43.66094	

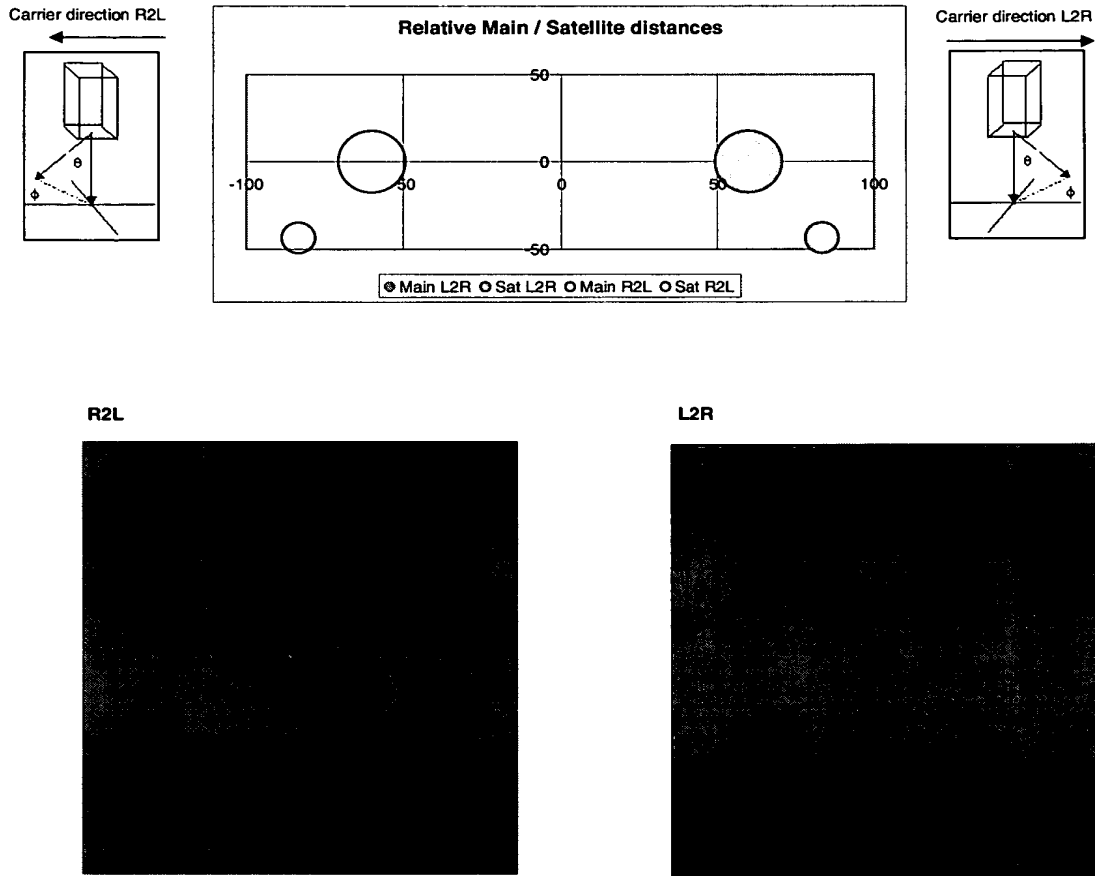


FIGURE 19

X misplacement = $\{ \text{Gap} \cdot \text{Carrier Velocity} / [\text{Jet Velocity} \cdot \cos(\theta)] \} + \text{Gap} \cdot \tan(\theta) \cdot \cos(\phi) + \text{xoffset}$
Y misplacement = $\text{Gap} \cdot \tan(\theta) \cdot \sin(\phi) + \text{yoffset}$
Gravity and Air turbulence ignored

Gap (microns)	1000			
Carrier Velocity (ips)	30			
	L2R		R2L	
	Main	Satellite	Main	Satellite
Jet Velocity (ips)	500	360	500	360
Theta (degrees)	0	2.5	0	2.5
Phi (degrees)	0	90	0	90
X misplacement (microns)	60	83.41272	-60	-83.41272
Y misplacement (microns)	0	43.66094	0	43.66094

Inputs

Outputs

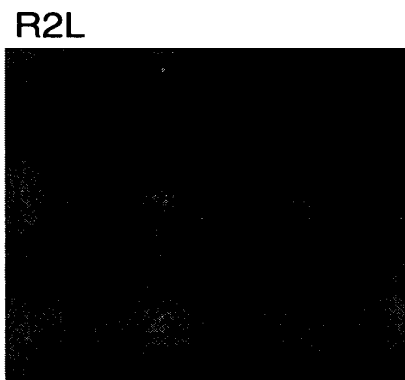
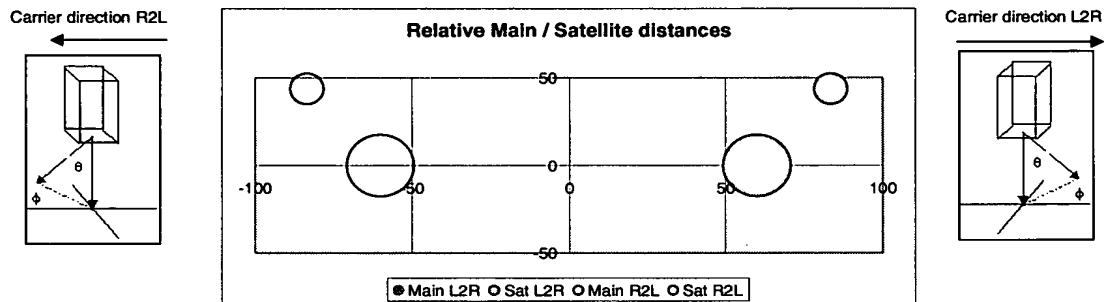


FIG. 20

$$X \text{ misplacement} = \{Gap * Carrier \text{ Velocity} / [Jet \text{ Velocity} * \cos(\theta)]\} + Gap * \tan(\theta) * \cos(\phi) + xoffset$$
$$Y \text{ misplacement} = Gap * \tan(\theta) * \sin(\phi) + yoffset$$

Gravity and Air turbulence ignored

Gap (microns)	1000		300		500		300		500		300	
Carrier Velocity (ips)	30		30		30		30		30		30	
	L2R		L2R		R2I		R2I		R2I		R2I	
	Main 1	Sat 1	Main 2	Sat 2	Main1	Sat 1	Main 2	Sat 2	Main 2	Sat 2	Main 2	Sat 2
Jet Velocity (ips)	500	360	500	300	500	300	500	360	500	360	500	360
Theta (degrees)	0	0	0	0	0	0	0	0	0	0	0	0
Phi (degrees)	0	180	0	180	0	180	0	180	0	180	0	180
X misplacement (microns)	80	103.3333	40	80	-40	-80	-80	-103.3333	-80	-103.3333	-80	-103.3333
x offset	20	20	-20	-20	20	20	-20	-20	20	20	-20	-20
Y misplacement (microns)	0	0	0	0	0	0	0	0	0	0	0	0
y offset	0	0	0	0	0	0	0	0	0	0	0	0

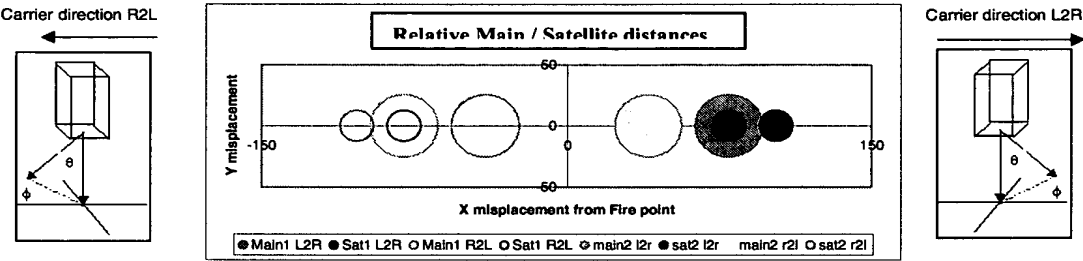
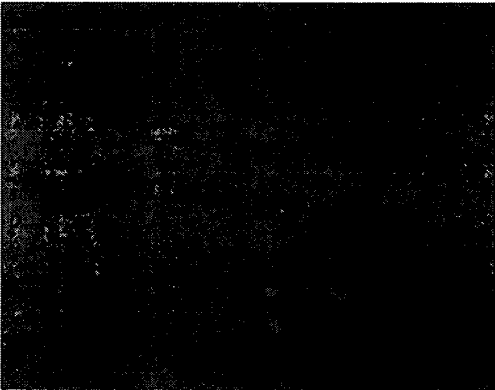


FIG. 21

R2L



L2R



FIG. 22

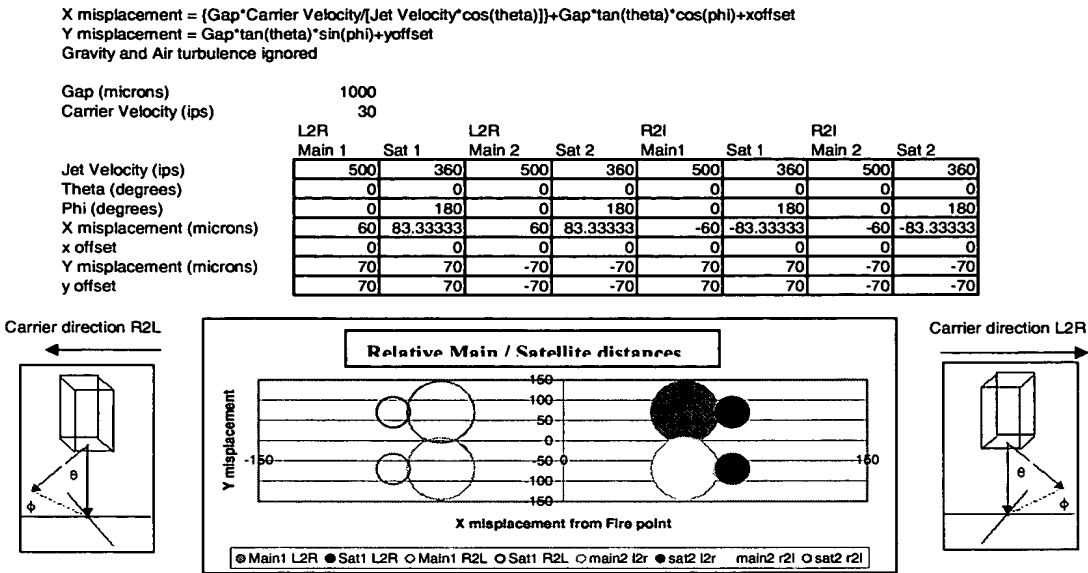


FIG. 23

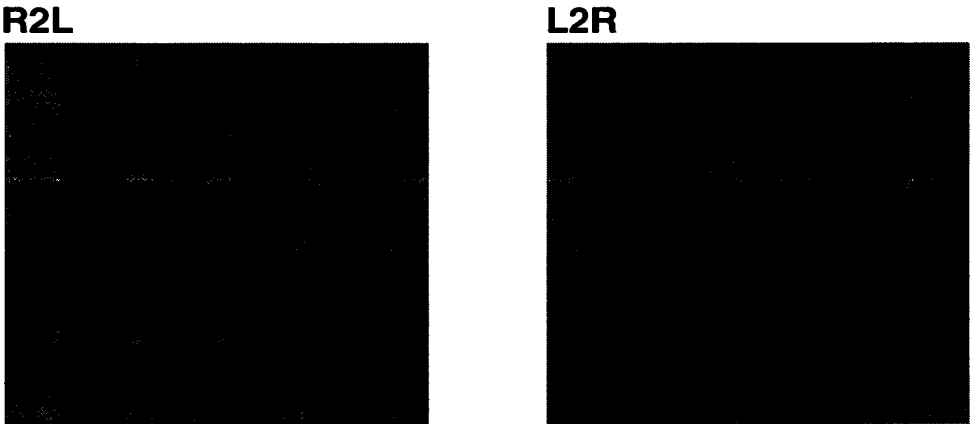


FIG. 24

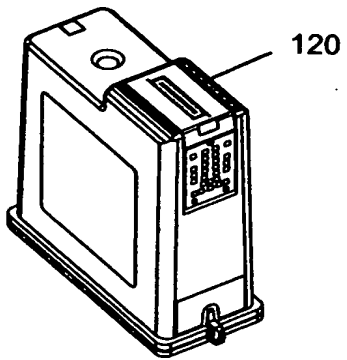


FIG. 25

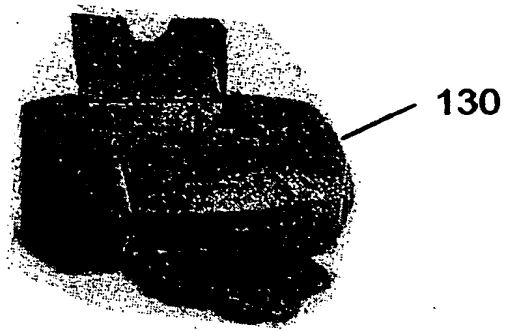


FIG. 26